UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,988	09/24/2001	Jeffrey Schlom	2026-4292US1	7849

26633 7590 03/23/2004

HELLER EHRMAN WHITE & MCAULIFFE LLP
1666 K STREET,NW
SUITE 300
WASHINGTON, DC 20006

EXAMINER	
LI, BAO Q	

ART UNIT	PAPER NUMBER
1648	

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/856,988	SCHLOM ET AL.	
	Examiner	Art Unit	
	Bao Qun Li	1648	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 December 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☒ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *they are not persuasive to overcome the outstanding rejections*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☐ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: *None*.

   Claim(s) objected to: *None*.

   Claim(s) rejected: *37,89-93 and 107-131*.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

Bao Qun Li

Advisory Action

The response to the final action filed on 12/18/2003 under 37 CFR 1.116 has been entered. However, the amendment of the claims has been considered but is not deemed to place the application in condition for allowance.

For purpose of appeal, the status of the claims is as follows:

Allowed claim(s): NONE.

Rejected claim (s): 37, 89-93 and 107-131.

Claim(s) objected to: NONE.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 93 is still rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for producing a enhanced immune response by exposing the T cells in vitro to a host cell infected, transfected or induced with a recombinant vector that comprises at least one nucleic acid sequence encoding B7, ICAM-1 and FLA-3, does not reasonably provide enablement for using this method for treating or preventing any or all disease caused by viruses, bacteria, protozoans, parasites and tumor. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

3. Applicants traverse the rejection and submitted that the world of vaccination, preventive vaccines are used against infectious diseases prior to infection, whereas the treatment vaccines are directed against caner in patients where it has already occurred. The claimed invention presents a new approach towards the stimulation of the immune system by using a vector containing sequences encoding B7, IACM-1 and LFA-3. Applicants further asserted that the wealth of data in Applicants' specification showing

the effectiveness of claimed invention. Examples 24-27 discuss the co-stimulation and T-cell proliferation effects of embodiments. Example 28 demonstrates desirable effects on apoptosis. Example 29 discusses anti-tumor effects. Examples 30-33 also contain positive data on co-stimulation using embodiments of the invention.

4. Applicants' argument has been respectfully considered; however, it is not found persuasive because the specification does not provide adequate data to support the claimed invention read on a method that can be used for preventing any or diseases caused by caused by viruses, bacteria, protozoans, parasites and tumor. Example, does not object that the claimed method can be used for stimulate the immune system to produce an enhanced immune response it is co-administrate with another antigen. The rejection is, however, to the scope of claim read on a method that can be used for prevention. Therefore, the rejection for claim 93 is maintained.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

6. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

7. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 37 and 107-126 are still rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1- 6 of U.S. Patent No. 6,548,068 on the same ground as stated in the previous Office Action.

9. Applicants argue that examiner must indicate how the claims of the instant application are sufficiently "obvious" over the other claims so as to result in an impermissible prolongation of parent term. The examiner, however, has not made out a prima facie case why the claims are obvious in view of one another, and therefore the rejection should be withdrawn.

10. Applicants' argument has been respectfully considered; however, it is not found persuasive because patent "068" is directed to a host cell infected with a recombinant viral vector, in particular a recombinant vaccinia viral vector, comprising multiple costimulatory B7.1 or B7.2, optionally with one or more immunostimulatory molecule, ICAM-3 and LFA-3, and a tumor associated antigen, preferably ECA. Furthermore, it also teaches that after about 1-16 hours ex vivo treatment, the activated host T lymphocytes are administrated to mammal for treatment of cancer, and the treatment may be administrated concurrently with other cytokine (lines 3-16 on col. 30). Therefore, it would have been obvious for any person with ordinary skill in the art to make a composition and a method of making and method of using the same composition that comprises a recombinant vector with same structural characteristic as disclosed by patent "068" and use it for infecting a host cells to produce an enhanced immune response as taught by patent "068" absence of unexpected result.

11. In addition, while the current application is directed to a generic recombinant vector, and Patent "068" is specifically directed to use a particular vaccinia vector for carrying the co-stimulatory factors, the species of a vaccinia viral vector is in the scope of a generic recombinant vector. Hence the scope of claimed invention is also overlapping.

12. Therefore, the rejection is maintained. Applicants are suggested to file a TD to overcome the outstanding rejection.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 37 is still rejected under 35 U.S.C. 102(b) on the same ground as stated in the previous Office Action as being anticipated by Hargraves et al. (International Immunology 1995, Vol. 7, pp. 1505-1513).

1. Applicants traverse the rejection and submit that the Office must demonstrate that each and every claim term is contained in the single prior art reference, and the claim terms are to be given their plain meaning as understood by a person of ordinary skill in the art, particularly given the limitations of the English language. Moreover, the claims must be interpreted as broadly as their terms reasonable allow. Applicants further asserted that an allegedly anticipatory reference must enable the person of ordinary skill to practice the invention as claimed. Applicants argue that in the instant case, Hargreaves et al. at page 1512 discusses that DAP.3/DR1 cells that express a mouse B7 gene. These cells were transfected with cDNAs clones for LFA-3 and/or ICAM-1. Accordingly, theses cells were not recombinant vector, such as a recombinant poxvirus that comprises at least one nucleic acid sequence encoding B7, IACM-1 and LFA-3. That is, the cells disclosed in the reference were not transfected with a vector that encodes these three types of co-stimulatory molecules.

2. Applicants' argument has been fully considered; however, it is not found persuasive because it is noted that the features upon which applicant relies (i.e., the vector that is used for transfecting the cells encodes three type of co-stimulatory molecules together) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3. Also as Applicants understood that the claims must be interpreted as broadly as their terms reasonable allow. The broad interpretation of rejected claim 37 can be a host cells infected, or transfected, or induced by a recombinant vector comprising at least one of three stimulatory molecules. Especially, when the recitation of "sequences" in the line 3 is taken into consideration, it further indicates that the sequence in the line 2 may only encode one of the stimulatory molecules selected from the group consisting of B7, CAM-1 and LFA-3, each of the stimulatory molecules is encoded by a singular sequence. Altogether, the vector permits to express all sequences encoding the three co-stimulatory molecules. Because Hargraves et al. disclose several cell lines, some of them only are

transfected to express one co-stimulator molecule, some of them expresses two co-stimulatory molecules, and some of them expresses three co-stimulatory molecules (See Fig. 1 on page 1057).

4. Regarding to the argument that these cells were not recombinant vector, it is quit confusing in that Office never state that the host cell is a recombinant vector as the ground of this prior art rejection. Instead, as a ground of the rejection, Office Action wrote that "Hargreaves et al. disclose a mouse B7-expression DAP.3/DR host cell line is supertransfected with cDNA clones encoding human ICAM-1 and/or human LFA-3 respectively (See lines 14-35 on 1st col. of page 1512), wherein the cDNA clones are CDM8 recombinant vector and pcEXV-3 recombinant vector".

5. If Applicants see paper no. 1506, the section of constructs and cell transfection, it also discloses that cDNA carrying the human ICAM is also an expression vector named pHβApro-Neo.

6. As rejected claim 37 does not have the limitation of the vector used for the transfection comprising three types of co-stimulatory molecules, the cited reference still read on the claimed invention. Therefore, the rejection is maintained.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Qun Li whose telephone number is 703-305-1695. The examiner can normally be reached on 7:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel can be reached on 703-308-4027. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bao Qun Li
03/06/2004

James C. Housel 3/22/04

JAMES HOUSEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600